# Hunts Point Cooperative Market Redevelopment Plan

# Investigative Scope of Work for Operating Unit Portion of Parcels A & E, Bronx, NY

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**June 1999**

**(Revised 17 June 1999)**

**INTRODUCTION**:

The Scope of Work is for subsurface investigation for the initial Operable Units (OUs 1 and 2) of two Parcels (A & E) located in the northwestern portion of the Hunts Point Cooperative Market (Figure 1). The purpose for the investigation is to determine areas of the OUs that are suitable for redevelopment under the proposed redevelopment plan and identify specific areas that may require more specific attention. Following completion of the SOW, areas not showing free product or gross contamination will be immediately available for the proposed redevelopment. The sites are best described as follows:

SITE A: The total area of Site A is rectangular in shape and covers approximately 14.5 acres with the OU 1 area being approximately 7 acres in size. The Site is bounded on the north by the northern edge of Viele Avenue, on the south by Food Center Drive, on the west by Halleck Street, and the east by what was designated in the 1951 Sanborn as Laboratory Road (Figure 2).

SITE E: Site E is shaped as a north/south orientated rectangle with a long narrow rectanglar piece attached to the northwestern edge and extending in a westerly direction. The total area of the Site is approximately 11.6 acres with the OU 2 area being approximately 7.3 acres in size. The entire Site E is bounded on the north by Bay Avenue (now part of Food Court), on the south by the approximate southern border of Viele Avenue, with the extension ending at Halleck Street, and the main site extending east to the approximate limit of Falconer Street (now bordered by the A & P food center (Figure 3).

Historic Sanborn and topographic maps have been reviewed and a composite showing conditions which were identified on those maps is included as Figure 4. Historic aerial photograhs will also be reviewed prior to the start of field work and any conditions not shown on the Sanborns will be taken into consideration for the actual sampling. The intrusive work proposed in this scope takes into account the information shown on these maps and photos.

## SCOPE OF WORK for Sites A & E:

### Approach to Sampling

1) LMS will begin this assignment by conducting a site inspection to identify the health and safety concerns for the sites, access limitations, layout of control areas, preparation of a site specific health and safety plan, and confirmation of utilities on the sites with respect to the sampling locations.

2) Sampling will consist of excavation and visual inspection of a significant amount of material across each of the sites in the areas of the OUs shown on Figures 2 and 3. The inspection will also allow for collection of samples across each site in these areas in a manner not normally available during the installation of test borings and should allow for a fairly extensive site characterization to be performed.

   Based on the review of boring logs from the previous Phase II work, and a walkover of the sites, it is proposed that a track mounted excavator be used to install trenches and test pits across both sites. Trenches will begin on one side of the site (east or west) and extend across the site to a point reasonably close to the opposite edge of the area influenced by the OU. Test pits are proposed to be installed in areas now known to contain significant underground utilities that would make a continuous trench impossible or infeasible. Figure 5 shows the specific location of both pits and trenches in the OU of Site A. The portion of the Site that is covered or broken up with utilities is proposed to have test pits installed. Approximate dimensions of the trenches and locations of the pits for each site are shown on Figure 5 (Site A) and Figure 6 (Site E). Specific site features viewed during the utility clearance (i.e. tar balls, extruded surface tar, or obvious signs of a subsurface condition) may prompt the adjustment of trench locations. As well as the determination of significant underground utilities during the markout that may prompt trenches to be scaled down to test pits.

   A total of five (5) linear arrangements of excavations (trenches or pits) are proposed for Site A. Figure 5 shows the first three and the last lateral east – west sampling locations to be completed with trenches and the fourth row from the northern end to include four test pits along the lateral. Following completion of the excavation, a north – south trench approximately 30 ft long will be excavated across the area of the trench or test pit that shows the greatest level of visible contamination. If no visible contamination is encountered, then this will not be necessary. A total of four (4) lateral sampling locations are proposed in Site E (Figure 6); Three trenches approximately 200 ft long are located at the northern and southern end of the empty portion of the operable unit (south of the easement) . In the northern portion of the site above the utility easement, one lateral will be located in an area away from the high traffic zone. Following completion of the excavation, a north – south trench approximately 30 ft long will

be excavated across the area of the trench or test pit that shows the greatest level of visible contamination. If no visible contamination is encountered, then this will not be necessary. A gap is shown on the southernmost trench due to access problems between the existing concrete structures and fence. Additional gaps in the trenches may be necessary to avoid existing or suspected underground utilities, structures or obstructions. These determinations may be made at any time up to and during the actual excavation.

**Trench Excavation and Sampling Procedures**

Each trench or test pit will extend to a depth at which groundwater interferes with observations, refusal, or 15 ft below grade, whichever comes first. Based on existing information, groundwater is expected to be encountered between the depths of 8 – 12 ft below grade. Material removed from the excavation will be placed as close to the actual excavation as possible while still maintaining protection against collapse. All inspection of material will occur from outside the excavation. LMS will monitor and log each excavation as it is extended with a combustible gas indicator (CGI) and either a photoionization detector (PID), or flameionization detector (FID). Readings will be collected according to depth and location in the excavations and will be used to reconstruct a subsurface profile of the Site. During the excavations, specific attention will be paid in the examination of unearthed structures (piping, vaults, specialized fill material, etc.). It is not the intent of the excavations to delineate and remove piping and remediate contamination and therefore material will only be removed from the backfill stockpile if contamination (petroleum or other obvious contaminants) is encountered in a quantity and condition where it can be reasonably segregated. If any material requires segregation, it will be placed separate from the material to be backfilled on plastic sheeting. Understanding that conditions and material may vary, LMS will extend the trenches in length and depth according to conditions that are encountered. The general procedure would be to open an area equal to the reach of the excavator and remove material in 1ft or 2ft lifts.

During intrusive sampling, LMS will perform air monitoring at each Site as per the Community Air Monitoring Plan portion of this Scope. All samples collected will be delivered under chain-of-custody protocol via overnight courier to a New York State Department of Health (NYSDOH) certified analytical laboratory. Samples will be analyzed for the parameters described below and listed on Table 1, the level of reporting will be NYSDEC ASP Category B deliverables.

LMS proposes to collect three (3) material samples from each trench or horizontal group of test pits at depths above the saturated zone. The general procedure will be to collect grab samples for volatile organics (VOC) analysis from the three locations in each trench that exhibit the greatest degree of petroleum and/or organic contamination based on observations and meter readings ("worst case" locations). Three (3) worst case composite samples will also be collected and submitted for Target Compound List (TCL) semi-volatile organic compounds (SVOCs), pesticide/PCBs, metals and cyanide. Metals analyses will include

those reported at significant concentrations at other MGP sites that might pose some concern with respect to human health: arsenic, cadmium, chromium, lead, nickel, and vanadium

When groundwater is encountered it will be inspected for obvious contamination and if free phase petroleum or significant contamination is encountered, the bottom of the trench will be backfilled in that location in order to prevent rapid lateral movement of petroleum in the excavation. Upon completion of each trench excavation and prior to complete backfilling, a temporary slotted PVC pipe (2-4 in. ID.) will be placed in the location of greatest obvious groundwater contamination in that trench. The pipe will be kept upright as the trench is backfilled and a temporary cap placed on the top. If no obvious groundwater contamination is encountered then PVC will be installed in the area affording the most available water.

Backfilling will be performed in 1-1.5 ft lifts or greater if conditions allow and compacted by the excavator bucket between each lift. Figure 7 shows the relative layout of both OUs with respect to the sampling locations and the historic site setting.

Upon completion of all of the trenches for each Site, the temporary PVC pipes will be inspected and the locations exhibiting the worst case condition in addition to the expected downgradient (southernmost) locations, will have a groundwater sample taken in that location. If both are in the same trench then only one groundwater sample for that OU will be collected. Each sample will be collected and submitted for TCL VOC, SVOC, Pesticide/PCB, metals and cyanide. The samples will be filtered in the field for all parameters with the exception of VOCs using an inline filtration apparatus and then preserved prior to shipment to the laboratory.

**Deep Boring Installation and Sampling Procedures**

Three (3) deep borings are proposed to be installed at the Sites A and E (two (2) at OU1 and one (1) at OU2). The initially proposed locations are in the southern end of Site E in the former vicinity of the gas holder, and in the eastern portion of Site A, nearest the purifying boxes (as they appear on the 1951 Sanborn). The final locations will be modified based on the trenching inspection. LMS proposes to place the borings in their respective Sites in a location that exhibits the greatest potential for encountering dense non-aqueous phase liquid (DNAPL). Each boring will be advanced using air rotary with an outer casing advancer as the drilling method. This method is preferable to wet rotary in situations such as this since it will not require recirculation of drilling fluid that has contacted and potentially mobilized contamination. All cuttings exit at the top of the boring and stay at the surface. Continuous split spoon samples will be collected to the bottom depth of the boring which will be 50 ft or top of bedrock, whichever comes first. Upon removal of each split spoon, the sample will be closely inspected for physical characteristics including: color, material type and composition, relative grain size and distribution, presence of

free moisture, potential confining characteristics, evidence of contamination, and degree and orientation of contaminated bedding. If DNAPL is encountered, a sample will be collected and submitted to the contract analytical laboratory for analysis of SVOCs using EPA Method 8270. Following completion of each boring, a mixture of Type 1 Portland cement and bentonite will be pumped into the borehole as the casing is removed.

**Investigation and Data Report**

Following completion of the investigation for both Sites and receipt of the soil and groundwater analyses, LMS will prepare a Report that will include:

1. A description of the work that was performed
2. Any modification from this work scope and the reason for the modifications
3. Conditions that were encountered with respect to MGP contamination and an assessment of the contamination
4. Soil, fill, and groundwater conditions that were observed
5. Analytical data in tabular form comparing results to the most current applicable guidance (TAGM 4046) or standards (DWS)
6. An assessment of any areas of contamination with respect to the proposed development plan and land use
7. Cross sections and data figures which will provide a visual account of the physical and chemical conditions in the subsurface
8. Laboratory analytical data, trench and boring logs for all samples and areas covered by the investigation

**Community Air Monitoring Plan**

Air monitoring will be performed by LMS in the breathing zone adjacent to the excavation on a continuous basis. Measurements from the work area will be recorded manually as intrusive sampling is performed. If total organic vapors in the work area exceed 5 ppm above background then additional measurements will be collected at the perimeter. If perimeter measurements exceed 5ppm, work activities under the provisions of the Vapor Emissions Response Plan will be performed.

Particulates will be monitored within the work area during intrusive activities. Prior to beginning intrusive work, a background ambient measurement will be taken. If during the work, particulate levels in the work area are 150 $ug/m^3$ greater than the background level for a period of fifteen (15) minutes, then downwind perimeter measurements will be collected. If measurements remain 150 $ug/m^3$ above the

background then dust suppression techniques will be employed. All readings must be recorded and be available for State (DEC & DOH) personnel to review.

**Vapor Emission Response Plan**

If the ambient air concentration of organic vapors exceeds 5 ppm above background at the perimeter of the work area, activities will be halted and monitoring continued. If the organic vapor level decreases below 5 ppm above background, work activities can resume. If the organic vapor levels are greater than 5 ppm over background but less than 25 ppm over background at the perimeter of the work area, activities can resume provided:

- The organic vapor level 200 ft. downwind of the work area or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background.

If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown. When work shutdown occurs, downwind air monitoring as directed by the Safety Officer will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

**Major Vapor Emission**

If any organic levels greater than 5 ppm over background are identified 200 feet downwind from the work area or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If efforts to abate the emission source are unsuccessful and if the following levels persist for more than 30 minutes in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be placed into effect;

However, the Major Vapor Emission Response Plan shall be immediately placed into effect if organic vapor levels are greater than 10 ppm above background.

**Major Vapor Emission Response Plan**

Upon activation, the following activities will be undertaken:

1. All Emergency Response Contacts as listed in the Health and Safety Plan of the Work Plan will go into effect.

2. The local police authorities will immediately be contacted by the Safety Officer and advised of the situation.

3. Frequent air monitoring will be conducted at 30-minute intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the Safety Officer.

| Area A Soil | Method | Quantity | Type |
|---|---|---|---|
| **Trenching** | | | |
| TCL VOCs | 8260 | 15 | Grab |
| TCL SVOCs | 8270 | 3-5 | Composite |
| pesticide/PCBs | 8081/8082 | 3-5 | Composite |
| metals | 6010 | 3-5 | Composite |
| cyanide | 6010 | 3-5 | Composite |
| **Borings** | | | |
| TCL SVOCs | 8270 | 2 | Composite |
| | | | |
| **Area A Groundwater** | **Method** | **Quantity** | **Type** |
| TCL VOCs | 8260 | 2 | Grab |
| TCL SVOCs | 8270 | 2 | Grab |
| pesticide/PCBs | 8081/8082 | 2 | Grab |
| metals | 6010 | 2 | Grab |
| cyanide | 6010 | 2 | Grab |
| | | | |
| **Area A QA\QC Samples** | **Method** | **Quantity** | **Type** |
| TCL VOCs | 8260 | 3 | Trip Blank |
| TCL VOCs | 8260 | 0 | Field Blank |
| TCL SVOCs | 8270 | 0 | Field Blank |
| pesticide/PCBs | 8081/8082 | 0 | Field Blank |
| metals | 6010 | 0 | Field Blank |
| cyanide | 6010 | 0 | Field Blank |

| Area E Soil | Method | Quantity | Type |
|---|---|---|---|
| **Trenching** | | | |
| TCL VOCs | 8260 | 12 | Grab |
| TCL SVOCs | 8270 | 3-4 | Composite |
| pesticide/PCBs | 8081/8082 | 3-4 | Composite |
| metals | 6010 | 3-4 | Composite |
| cyanide | 6010 | 3-4 | Composite |
| **Boring** | | | |
| TCL SVOCs | 8270 | 1 | Composite |
| | | | |
| **Area E Groundwater** | **Method** | **Quantity** | **Type** |
| TCL VOCs | 8260 | 2 | Grab |
| TCL SVOCs | 8270 | 2 | Grab |
| pesticide/PCBs | 8081/8082 | 2 | Grab |
| metals | 6010 | 2 | Grab |

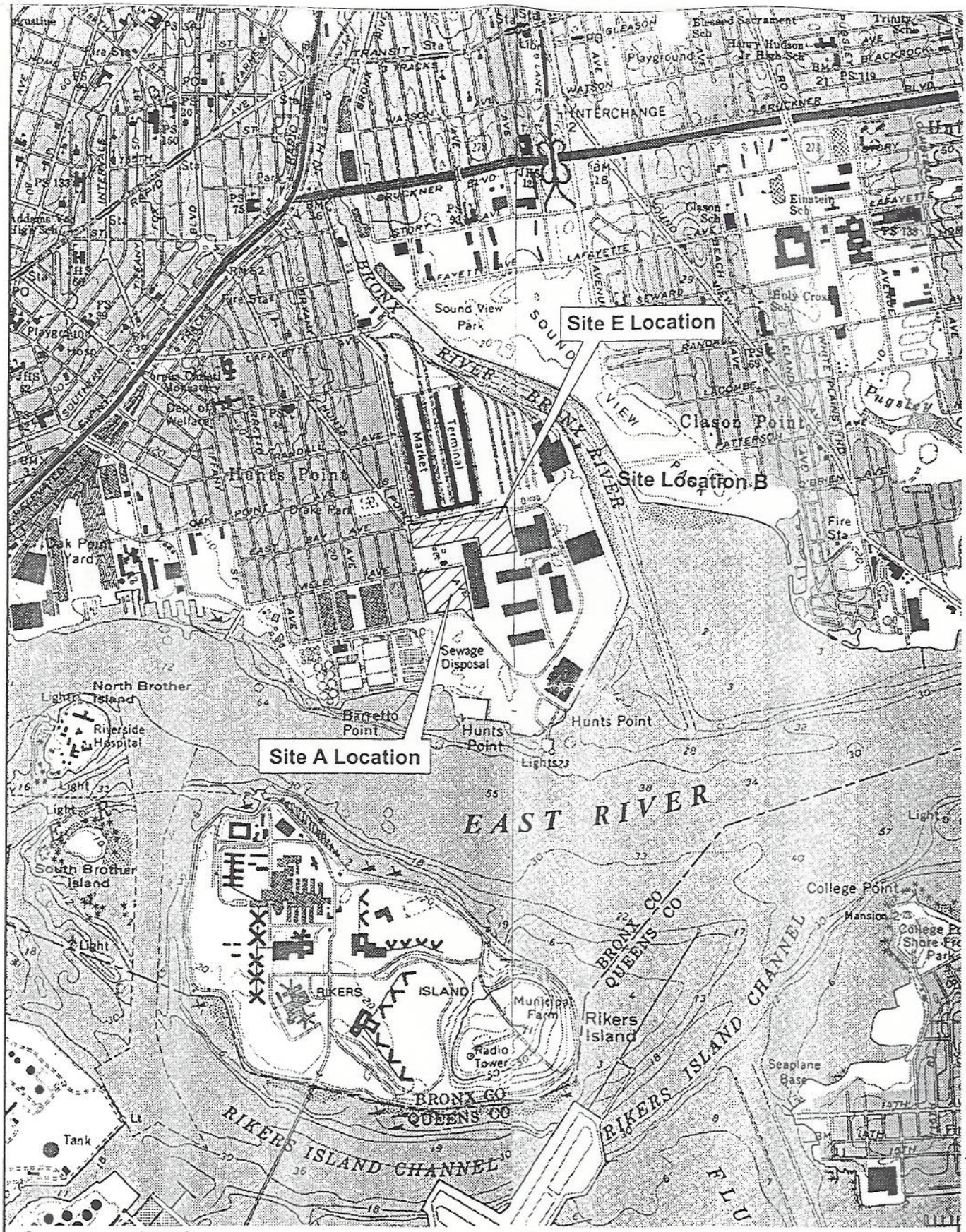
| | | | |
|---|---|---|---|
| cyanide | 6010 | 2 | Grab |
| **Area E QA\QC Samples** | **Method** | **Quantity** | **Type** |
| TCL VOCs | 8260 | 2 | Trip Blank |
| TCL VOCs | 8260 | 0 | Field Blank |
| TCL SVOCs | 8270 | 0 | Field Blank |
| pesticide/PCBs | 8081/8082 | 0 | Field Blank |
| metals2 | 6010 | 0 | Field Blank |
| cyanide | 6010 | 0 | Field Blank |

Notes:

* - Category B deliverables.

1 - Contract analytical laboratory is Mitkem Corporation.

2 - Metals include arsenic, cadmium, chromium, lead, nickel, and vanadium.




Map source: USGS 7.5 minute quadrangle series, Central Park, NY-NJ, 1966, photorevised 1988.

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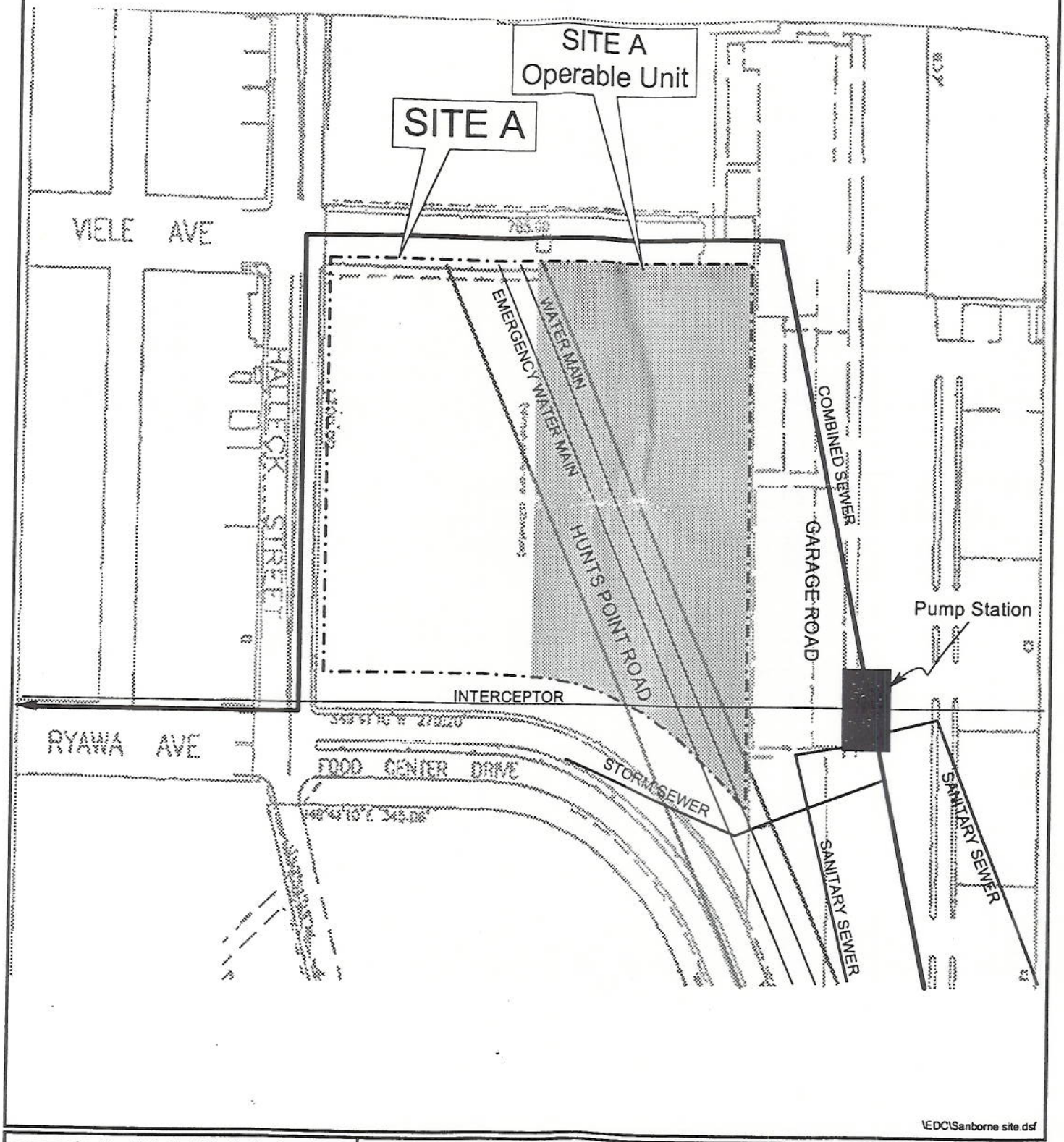
| LMS Lawler, Matusky & Skelly Engineers LLP<br>One Blue Hill Plaza • Pearl River, New York 10965<br>ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS | **Site Location**<br>**Hunts Point** | **Figure 1** |

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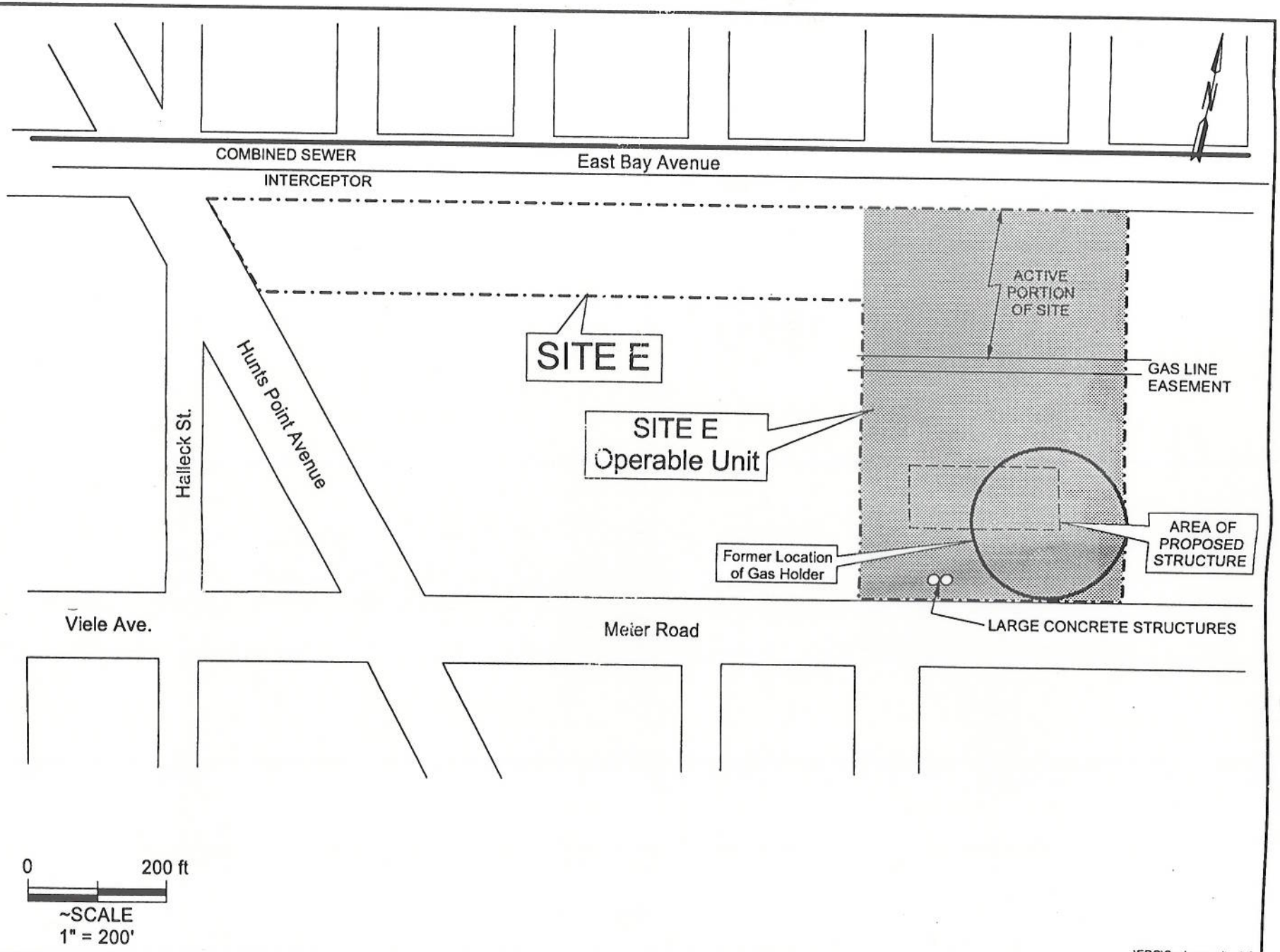
| LMS Lawler, Matusky & Skelly Engineers LLP<br>One Blue Hill Plaza - Pearl River, New York 10965<br>ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS | **Operable Unit Site A (With Known Utilities)**<br>**Hunts Point** | **Figure 2** |

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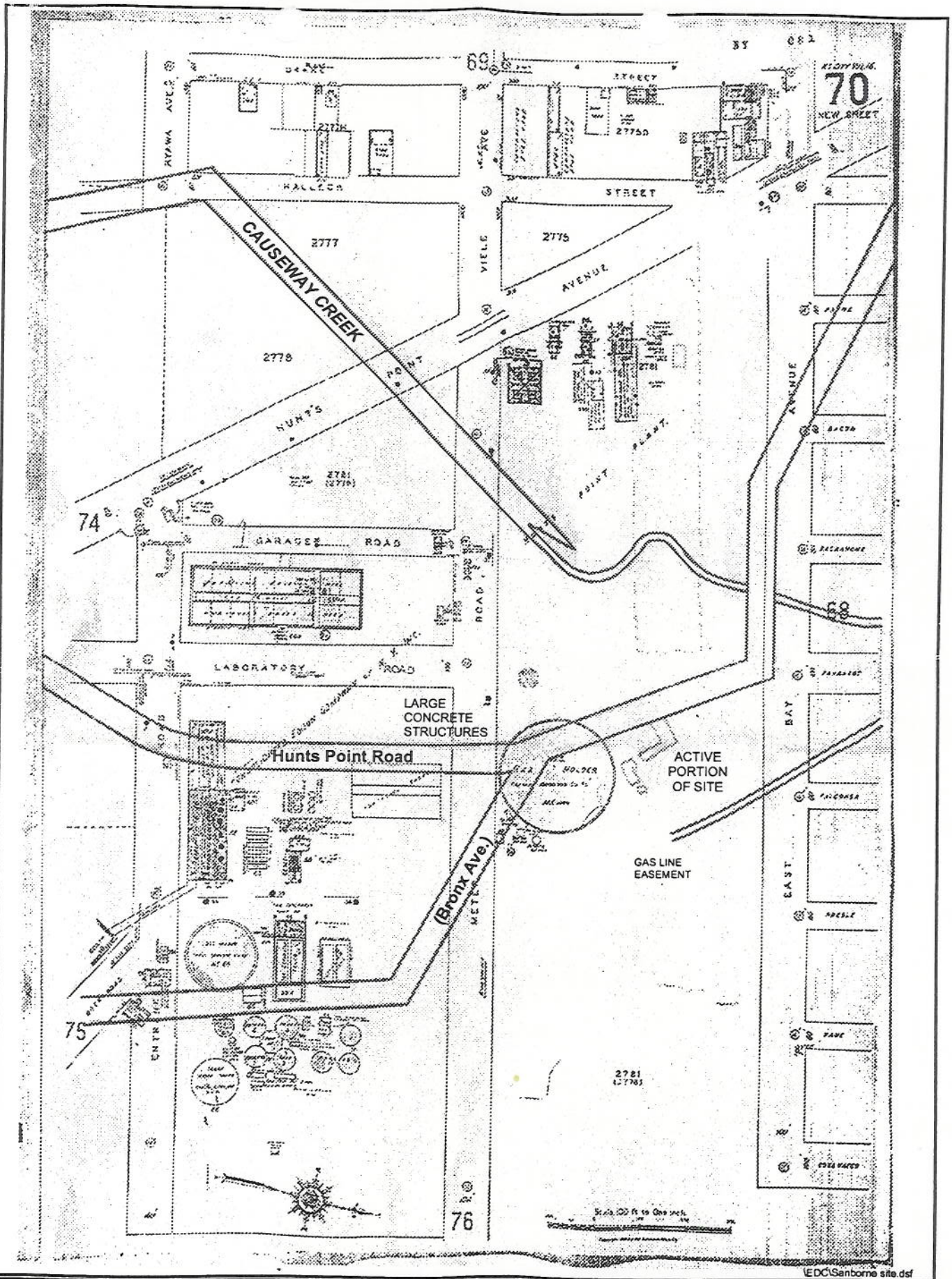
**Operable Unit Site E (With Known Utilities)**

**Hunts Point**

**Figure 3**

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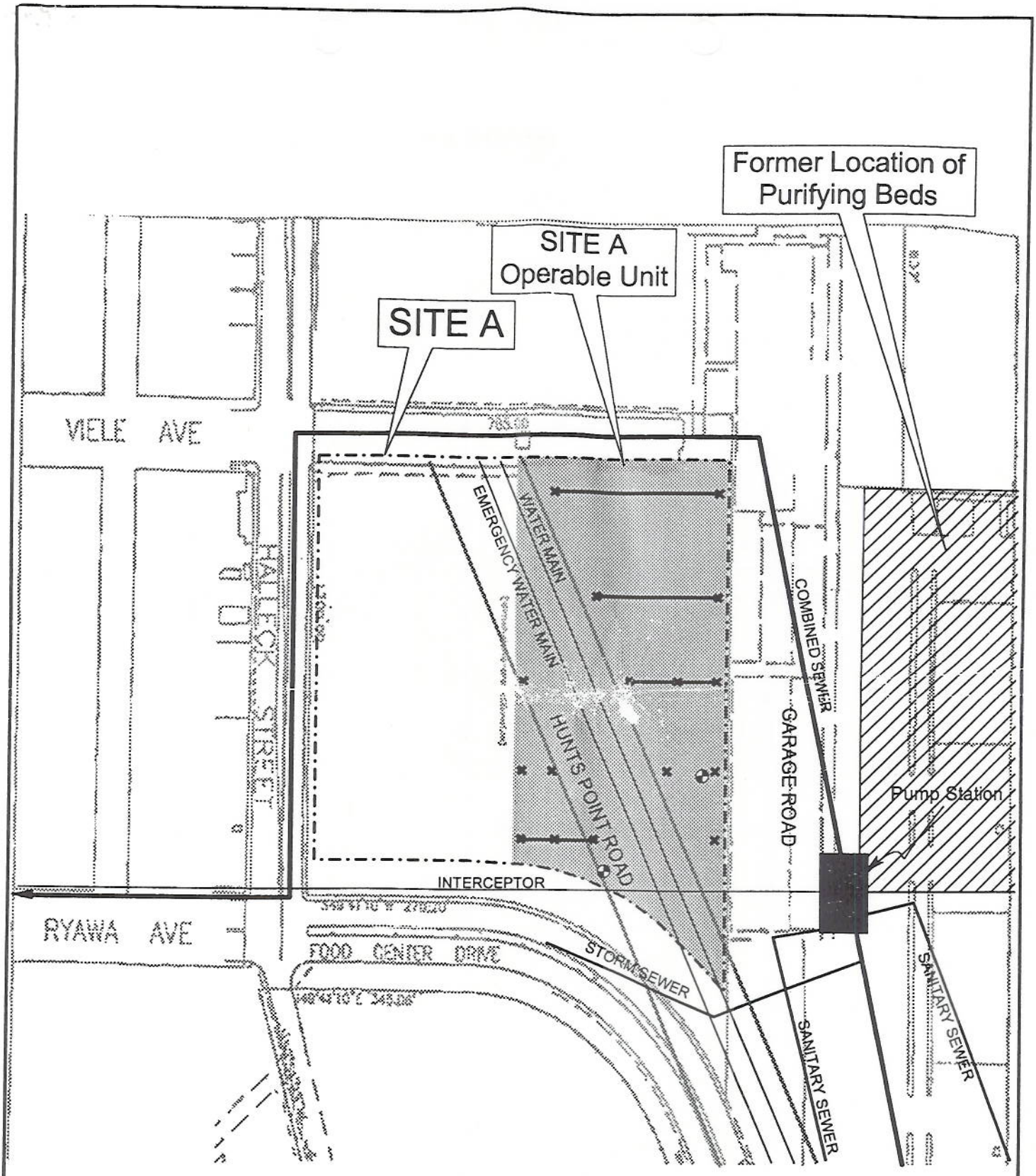
| LMS Lawler, Matusky & Skelly Engineers LLP<br>One Blue Hill Plaza • Pearl River, New York 10965<br>ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS | **Historic Sanborn**<br>**Hunts Point** | **Figure 4** |

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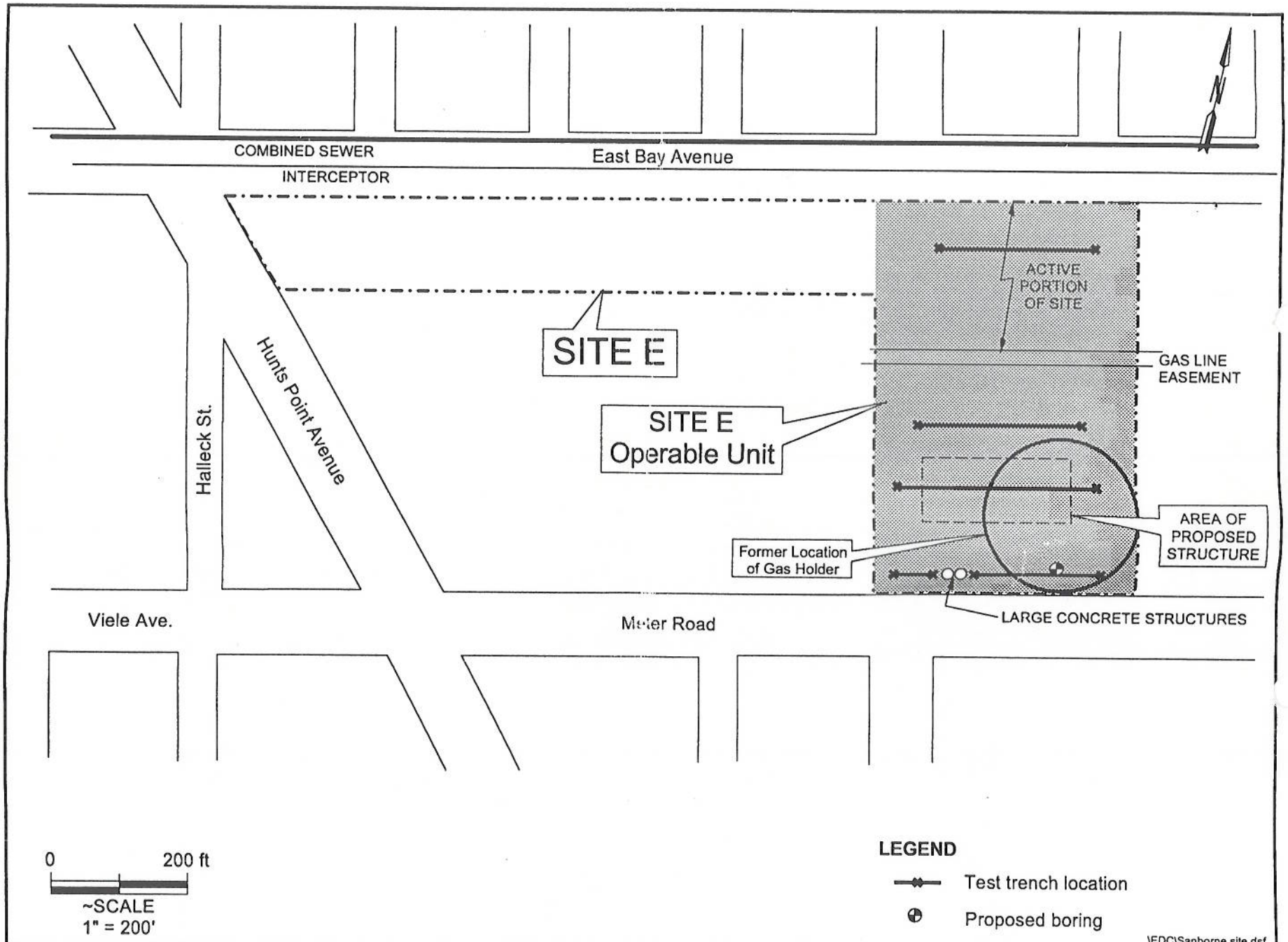
| LMS Lawler, Matusky & Skelly Engineers LLP<br>One Blue Hill Plaza • Pearl River, New York 10965<br>ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS | **Site A Sampling Laterals**<br>Hunts Point | Figure 5 |

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|---|---|---|
| LMS Lawler, Matusky & Skelly Engineers LLP<br>One Blue Hill Plaza • Pearl River, New York 10965<br>ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS | **Site E Sampling Laterals**<br>**Hunts Point** | **Figure 6** |